Work Orde	r ID 88620 47:59 PM		*886	320*						Page 1
Revision ID:	D3478-3		Accept	*N900	<b>040</b> 1	INN	*	Setup Sta	1.77	S1* S2*
	7/27/12 <b>Start Qty:</b> 2	<del>-</del>		Cust Item I Customer:	D:				, ,	. , ,
Approvals:	Process Plan:M	1 /	Tooling: SPC (Y/N):		nte:			Run Sta	D .	R1* R2*
Sequence ID/ Work Center ID			Set Up/ Run Hours	Tool ID	Tool# 1		Accept Qty	t Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr							,		
D3478	Rev C		0.00						· · · · · · · · · · · · · · · · · · ·	
*100* Shear Shear 304 - 018*		io Flat pattern as per Dwg D3475	0.00		S.			0		JM12-10-18
*110 *110*	Small Fab	3		$\setminus \mathcal{S}$	· •	DAS 30	<b>S</b>	1		14/01/23
Small Fab Small Fab	3-Fo		g Rotary Machine. art QSI 018		vill b	e pi	it sa	pu	14.01.7	3
120	QC5- Inspect par	t completeness to step on W/O	0.00						•	
*120* QC Quality Control	Меп	10	0.00							

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	100	VFOR	MANCE / UPDATE			· · · · · · · · · · · · · · · · · · ·	
		•									QA Closed:	Date:	
Work Ord	٠					DISPOSITION			AGAIN	IST DE	PARTMENT/	PROCESS	
Work Ord	er.	<del></del>		<del></del>		Rework	7		Skid-tube Crosstu	ho	1	Water Jet	Engineering
Part i	V.					Scrap			<b></b>	· -	Dro	d. Eng. Coor.	Quality
Palli	NO.					Scrap Machining Small Fab Use-as-is Thermoforming Finishing		—	4	re/Packaging	Other		
NCR i	Nο					Work Order Update	-		Large Fab Compos	~ —	1 1160/3101	Supplier	
Next	•0.					Work order opaute	ָ נ		compos		<u>.</u>	Supplie:	ا ا
Root					Desci	ription of work order update	[ ]	nitial	Action		Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator												i	
Material													
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Other													
Process													
Supplier				1									
Training						<i></i>							
Unapproved						-					·		
						F	AUI	T CATE	GORY				
Landi	ng (	Gear			_	GeneraJ					<b>-</b>		_
Bending Bend			Bend		Grain			Ovalized		Pressure/Forced			
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
Cracks Broken/Damaged			Broken/Damaged		Inspection Incomplete			Part Incorrect		Weld			
		Crushed/	Crimped.		Γ	Burrs		Instruct	ions Incomplete/Unclear		Part Lost/Mi	ssing	Wrong Stock Pulled

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Part Moved

Positioned Wrong

Power Loss/Surge

Other

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Cuffs

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ordo		3620		*886	320*						Page 2
Item ID: Revision ID: Item Name:	D3478-3			Accept	*N900	<b>040</b>	100	)* s	etup Sta Sto	I W	S1* S2*
Start Date: Required Date: Reference:	7/27/12 7/27/12	Start Qty: 2.00 Req'd Qty: 2.00	*2* *2*		Cust Item I Customer:	D:					
Approvals:		an:	Date:	Tooling: SPC (Y/N):		ate:		R	tun Sta Sto		R1* R2*
Sequence ID/ Work Center I  130  *120* Packaging Packaging	D	Operation Description Identify as per dwg & St	ock Location:	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* QC		QC21- Final Inspection  Memo	- Work Order Release	0.00	•						

Quality Control

U 1401.23

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	DATE			
											QA Closed:	Date:	
Work Ord	er:					DISPOSITION		AGAINST DE			PARTMENT	/PROCESS	
Part No.  NCR No.  Root Desc						Rework Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Work Order Update Large Fab Composite		Water Jet Prod. Eng. Coor.  Rec/Store/Packaging Supplier		Engineering Quality Other			
Root						ption of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	L												
Equip/Tooling	<u> </u>					·							
Operator													
Material													
Setup	L						-						
Other		1				`			ĺ				
Process													
Supplier													
Training													
Unapproved													
						F	AUL	T CATE	GORY				
Landi	ng (	Gear				General		_			_		_
	L	Bending				Bend		Grain			Ovalized		Pressure/Forced
	L	Centre No	ot Concer	ntric to	O/S	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
1		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination	Г	Mainte	nance		Part Moved		-
	Γ	Heat Trea	it			Countersink		Mislabe	led		Positioned V	Vrong	
			Cut Too Short		Misread	I		Power Loss/		Other			

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

August-02-12 1:47:58 PM

Work Order ID:

88620

Parent Item:

D3478-3

Parent Item Name:

Tube

**Start Date: 7/27/12** 

Required Date: 7/27/12

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP Rev:A New Issue 06-02-03 JLM IPP Rev:B As per Rev B 06-05-24 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S26GA 304/316 0.018 SHEET		Purchased	No			100	sf	71.8500	0.15	<b>(3)</b>			Jun 17-10-
				Location		Loc Qty	Lo	c Code					
				MAT020		71.85							

71.85

127753

117798

122753

											DQA:	Date:	
NCR:	Yes	/ No				<b>WORK ORDER NON-C</b>	100	NFOR	MANCE / UPI	DATE			
											QA Closed:	Date	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT,	PROCESS	
Part No.  NCR No.				Rework Skid-tube Crosstube Scrap Machining Small Fab Thermoforming Finishing Work Order Update Large Fab Composite			4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other				
Root						ption of work order update	1	Initial	Act	tion	Sign &		
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Desci	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Ш												
Operator	Ш						ŀ						
Material	Ш												
Setup	Ш												
Other													
Process									İ				
Supplier	П												
Training	П												
Unapproved	$\Box$												
						F	AUL	T CATE	GORY				
Landi	ng Ge	ear				General		_					
		Bending				Bend		Grain			Ovalized		Pressure/Forced
	$\Box$	Centre No	t Concer	tric to	o/s	BOM/Route		Hardwa	ire		Over/Under	tolerance	Temperature/Cure
	П	Cracks				Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct	Weld
	П	Crushed/0	Crimped.			Burrs		4	ions Incomplete/I	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	F-1 : F-1			Contamination		Mainte	•		Part Moved	<u> </u>			
	Heat Treat				Countersink		1				Vrong		

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

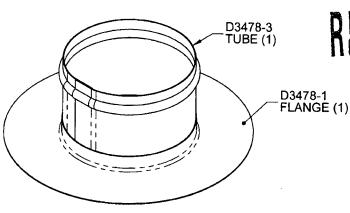
Folio

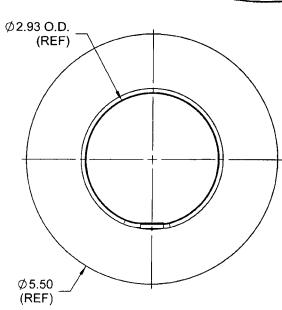
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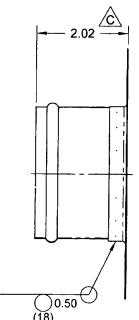


DESIG	h	DRAWN BY	DART AEROSPACE HAWKESBURY, ONTARIO, C	
CHECK	ED	APPROVED	D3478	REV. C SHEET 1 OF 7
DATE	08.1	12.19	AIR INLET ADAPTER	SCALE 1:2
Α	0	5.12.08	NEW ISSUE	
В	0	6.05.16	REDESIGN D3478-5, ADD D3478-	7, D3478-9S/-9
С	0	8.12.19	2.02 WAS 2.018 (SHT 1); ADD TOL MFG NOTE (SHT 3); MATL SPEC MIL-S-5059	_(SHT 3); ADD WAS

UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE ENGINEERING RETURN TO







# **D3478-041 AIR INLET ADAPTER**

#### **NOTES:**

- 1) SPOT WELD PER DART QSI 004
  2) FINISH: NONE
  3) IDENTIFY WITH DART P/N D3478-041 USING FINE POINT PERMANENT INK MARKER
  4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

QTY -041	P/N	DESCRIPTION
Х	D3478-041	AIR INLET ADAPTER
1	D3478-1	FLANGE
1	D3478-3	TUBE

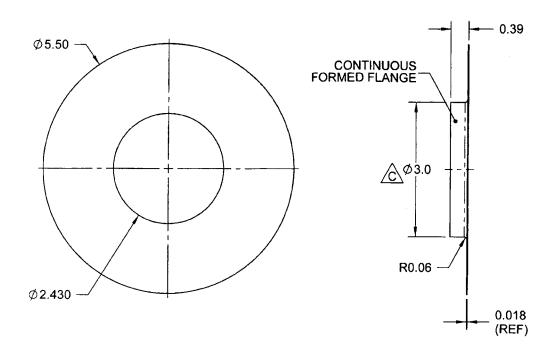
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DESIGN	DRAW BY	DART AEROSPAC HAWKESBURY, ONTARIO,	
CHECKED	APPROVED	DRAWING NO.	REV. C
PS	M	D3478	SHEET 2 OF 7
DATE		TITLE	SCALE
08	.12.19	AIR INLET ADAPTER	1:2

RELEASED



D3478-1F FLANGE FLAT PATTERN

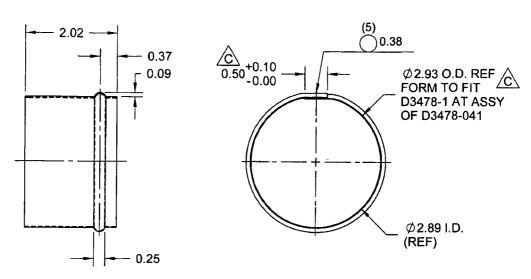
D3478-1 FLANGE

#### NOTES:

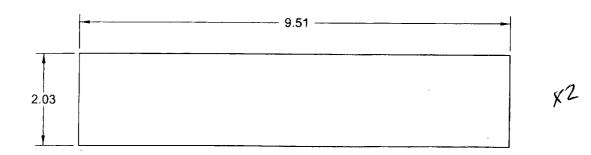
- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524, 26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
  2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 3) ALL DIMENSIONS ARE IN INCHES 4) BREAK ALL SHARP EDGES 0.005 TO 0.010



DESIGN	DRAWN BY	DART AEROSPAC HAWKESBURY, ONTARIO, O	
CHECKED	APPROVED	DRAWING NO.	REV. C
DATE 08	3.12.19	AIR INLET ADAPTER	SCALE 1:2



# **D3478-3 TUBE**



# **D3478-3F TUBE FLAT PATTERN**

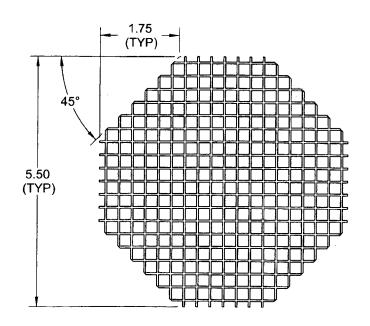
#### **NOTES:**

- 1) MATERIAL: AISI 304/316 SS SHEET PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524, 26 GAUGE SS (0.018 THICK) (REF. DART SPEC. M304S26GA)
  2) SPOT WELD PER DART QSI 018
  3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  4) ALL DIMENSIONS ARE IN INCHES
  5) BREAK ALL SHARP EDGES 0.005 TO 0.010



	1		
DESIGN	DRAWN BY	DART AEROSPACI HAWKESBURY, ONTARIO, C	
CHECKED	APPROVED	DRAWING NO.	REV. C
PH-	711	D3478	SHEET 4 OF 7
DATE		TITLE	SCALE
08.	12.19	AIR INLET ADAPTER	1:2

RELEASED M. B. B. M. D



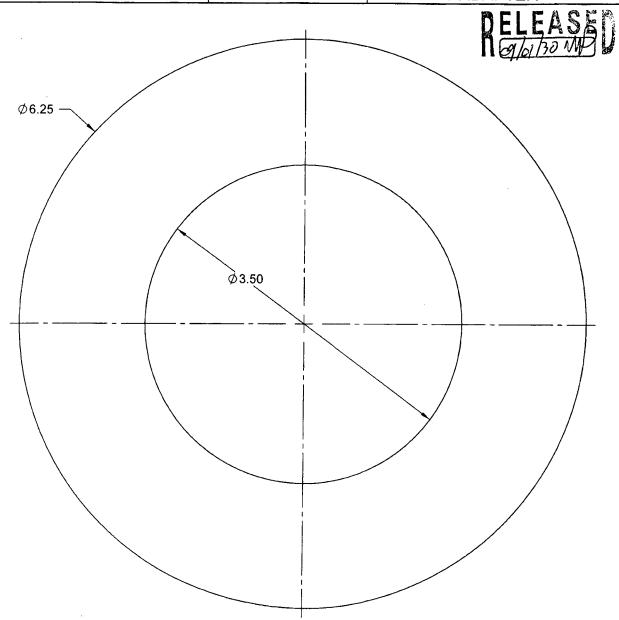
# **D3478-5 SCREEN**

### NOTES:

- 1) MATERIAL: #4 MESH SCREEN, 0.203" OPENING, Ø0.047" WIRE (REF. DART SPEC. M304MS4.203-.047)
  2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 3) ALL DIMENSIONS ARE IN INCHES
  4) BREAK ALL SHARP EDGES 0.005 TO 0.010



DRAWN BY DESIGN DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA APPROVED DRAWING NO. CHECKED REV. C PH D3478 SHEET 5 OF 7 DATE TITLE **SCALE** AIR INLET ADAPTER 08.12.19 1:1



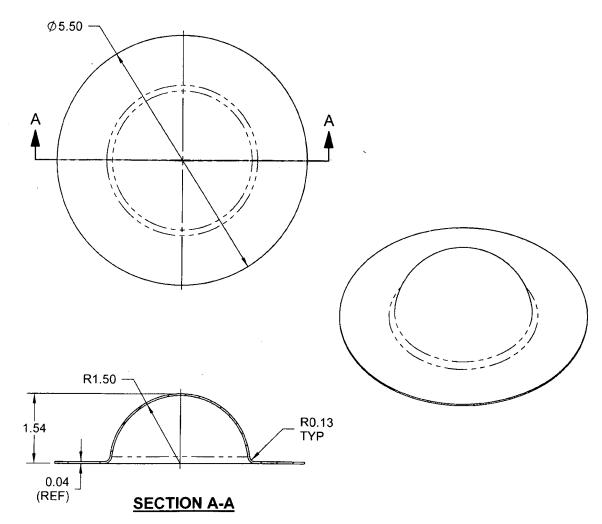
# D3478-7 INLET GASKET

#### NOTES:

- 1) MATERIAL: RED (OR GRAY) 60 DUROMETER HI-TEMPERATURE SILICONE SHEET, 0.063 THICK (REF. DART SPEC. M-SIL60-S.063)
  2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 3) ALL DIMENSIONS ARE IN INCHES 4) BREAK ALL SHARP EDGES 0.005 TO 0.010



DESIGN	DRAWN BY	DART AEROSPA HAWKESBURY, ONTAK	
CHÉCKED	APPROVED	DRAWING NO.	REV. C
RH	-18	D3478	SHEET 6 OF 7
DATE		TITLE	SCALE
08	.12.19	AIR INLET ADAPTER	1:2



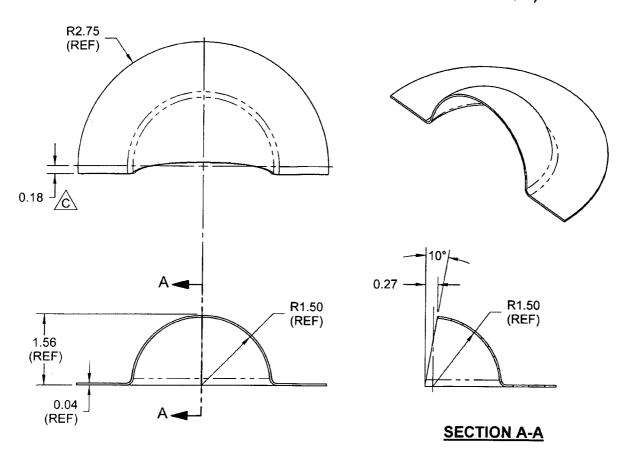
# D3478-9S AIR INLET SCOOP, SPINNING DETAIL

#### NOTES:

- 1) MATERIAL: 2024-0 ALUMINUM SHEET, 0.040" THICK PER AMS-QQ-A-250/4 OR AMS 4037 (REF. DART SPEC. M2024T0S.040) 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 3) ALL DIMENSIONS ARE IN INCHES 4) BREAK ALL SHARP EDGES 0.005 TO 0.010



DESIGN	DRAWNBY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3478	REV. C SHEET 7 OF 7
DATE		TITLE	SCALE
08.12.19		AIR INLET ADAPTER	1:2



# D3478-9 INLET SCOOP (MAKE FROM D3478-9S)

- 1) MATERIAL: MAKE FROM D3478-9S
  2) IDENTIFY WITH DART P/N D3478-9 USING FINE POINT PERMANENT INK MARKER
  3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  4) ALL DIMENSIONS ARE IN INCHES
  5) BREAK ALL SHARP EDGES 0.005 TO 0.010

